AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) An agent-based distributed reasoning system for managing a computer network with a plurality of hosts, the system stored in a computer readable medium and comprising:

a plurality of interface agents running on the plurality of hosts, the plurality of interface agents assigned to operating resources within the computer network;

a plurality of distributed case-based reasoning agents running on the plurality of hosts, wherein the plurality of distributed case-based reasoning agents is capable of accessing one or more case bases; and

a plurality of response agents running on the plurality of hosts, and

a plurality of self-monitoring agents providing self healing of agents functions,

wherein an interface agent in the plurality interface agents monitors event producing components in the system being managed, captures events, is configured to filter events, and sends an input regarding an event in an assigned resource to an appropriate a distributed case-based reasoning agent among the plurality of distributed case-based reasoning agents,

wherein agents carrying out actions in their local environments include messaging to other agents, site directory service, scheduling actions, or implementing response functions within the monitored network,

wherein should an agent fail, the related functions are reassigned to another agent, until the failed agent is repaired or restarted,

wherein the appropriate distributed case-based reasoning agent, upon receiving the input, accesses the one or more case bases to select a response and communicates the response to an appropriate a response agent in the plurality of response agents, and

wherein the appropriate response agent implements the response to resolve the event.

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2.   (Original) The system of claim 1, wherein the resources in the computer network includes network management tools, network security tools, operating system specific features, and health tools.

3.   (Original) The system of claim 1, wherein the plurality of distributed case-based reasoning agents consider inputs regarding multiple resources sent by one or more of the plurality of interface agents.

4.   (Original) The system of claim 1, wherein the response includes invoking one or more cases in the one or more case bases.

5.   (Original) The system of claim 1, wherein the plurality of distributed case-based reasoning agents is capable of selecting a response when multiple cases in the one or more case bases match the input.

6.   (Original) The system of claim 5, wherein the plurality of distributed case-based reasoning agents uses a precedence order to select a response .

7.   (Original) The system of claim 6, wherein the precedence order is defined based on specificity and priority values.

8.   (Original) The system of claim 5, wherein the plurality of distributed case-based reasoning agents uses response function call-switches to select a response.

9.   (Original) The system of claim 8, wherein the response function call-switches include active, always-fire, call-next, and timeout switches.

10.   (Original) The system of claim 5, wherein the plurality of distributed case-based reasoning agents uses a precedence order and response function call-switches to select the response.

11.   (Original) The system of claim 5, wherein the response includes invoking one or more cases in the one or more case bases.

12.   (Original) The system of claim 1, wherein the plurality of cases includes case templates.

13.   (Original) The system of claim 12, wherein the case templates are used to represent an event, add a new case, or analyze historical events.

14.   (Original) The system of claim 1, wherein agents including the plurality of interface agents, the plurality of distributed case-based reasoning agents, and the plurality of response agents are independent.

15.   (Original) The system of claim 1, wherein cases in the one or more case bases are adaptable.

16.   (Original) The system of claim 1, wherein a failing agent is replaced by another agent.

17.   (Currently Amended) A method for managing a computer network, the computer network having agent-based architecture with a plurality of agents, some of which are interface agents, distributed case-based reasoning agents, and response agents, the method comprising:

monitoring a resource in the computer network using an interface agent;

reporting, using the interface agent, an event in the resource to ~~an appropriate~~ a distributed case-based reasoning agent;

selecting a response using the ~~appropriate~~ distributed case-based reasoning agent; and

implementing the response using ~~an appropriate~~ a response agent,

<u>wherein agents carrying out actions in their local environments include messaging to other agents, site directory service, scheduling actions, or implementing response functions within the monitored network,</u>

<u>wherein should an agent fail, the related functions are reassigned to another agent, until the failed agent is repaired or restarted,</u>

wherein the ~~appropriate~~ distributed case-based reasoning agent accesses one or more case bases in the selecting step, and

wherein additional cases may be dynamically added automatically by using a case-template.

18.   (Original) The method of claim 17, further comprising;

replacing a failing agent among the plurality of agents with another agent.

19.   (Original) The method of claim 17, further comprising,

dynamically updating the one or more case bases.

20.   (Original) The method of claim 19, wherein the updating step uses a plurality of case templates.

21.   (Original) The method of claim 17, further comprising: representing an event using a case template,

    wherein the case template may be updated.

22.   (Original) The method of claim 17, further comprising:

    adding a new case to the one or more case bases using a case template.

23.   (Original) The method of claim 17, further comprising:

    analyzing historical data using a case template.

24.   (Original) The method of claim 23, wherein a result of the analyzing step may be used in the selecting step.

25.   (Original) The method of claim 17, wherein the selecting step further comprises:

    resolving a conflict when multiple cases match the event.

26.   (Original) The method of claim 25, wherein the resolving step uses a precedence order.

27.   (Original) The method of claim 26, wherein the precedence order is determined based on specificity and priority values.

28.   (Original) The method of claim 25, wherein the resolving step uses response function call-switches.

29.   (Original) The method of claim 28, wherein the response function call-switches include active, always-fire, call-next, and timeout switches.

30.   (Original) The method of claim 25, wherein the resolving step uses a precedence order and response function call-switches.

31.   (Currently Amended) A system for managing a computer network, the computer network having agent-based architecture with a plurality of agents, some of which are interface agents, distributed case-based reasoning agents, and response agents, the system stored in a computer readable medium and-comprising:

means for monitoring a resource in the computer network using an interface agent;

means for reporting, using the interface agent, an event in the resource to an appropriate a distributed case-based reasoning agent;

means for selecting a response using the appropriate distributed case-based reasoning agent by accessing one or more case bases;

means for self-monitoring and self healing of agents functions,

means for allowing the system to resolve conflicts when more than one case-based reasoning solution applies; and

means for implementing the response using an appropriate a response agent,

wherein agents carrying out actions in their local environments include messaging to other agents, site directory service, scheduling actions, or implementing response functions within the monitored network,

wherein should an agent fail, the related functions are reassigned to another agent, until the failed agent is repaired or restarted.

32.   (Original) The system of claim 31, further comprising:

means for surviving a failure without any service interruption.

33.   (Original) The system of claim 31, further comprising:

means for replacing a failing agent among the plurality of agents with another agent.

34.   (Original) The system of claim 31, further comprising:

means for dynamically updating the one or more case bases.

35.   (Original) The system of claim 31, further comprising:

means for resolving a conflict when multiple cases match the event.

36.   (Currently Amended) A computer program product for managing a computer network, the computer network having agent-based architecture with a plurality of agents, some of which are interface agents, distributed case-based reasoning agents, and response agents, the computer program product comprising:

computer readable program code configured to monitor a resource in the computer network using an interface agent;

computer readable program code configured to report, using the interface agent, an event in the resource to ~~an appropriate~~ a distributed case-based reasoning agent;

computer readable program code configured to select a response using the ~~appropriate~~ distributed case-based reasoning agent by accessing one or more case bases;

computer readable program code configured to allow the function of a failing or failed agent to be automatically reassigned to another agent;

computer readable program code configured to self-monitor and self heal agents functions,

computer readable program code configured to implement the response using ~~an appropriate~~ a response agent; and

a computer readable medium in which the computer readable program codes are embodied,

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wherein agents carrying out actions in their local environments include messaging to other agents, site directory service, scheduling actions, or implementing response functions within the monitored network,

wherein should an agent fail, the related functions are reassigned to another agent, until the failed agent is repaired or restarted.